TEACHERS' RETIREMENT BOARD

INVESTMENT COMMITTEE

SUBJECT: Off-Balance Sheet - Securities Lending Program ITEM NUMBER: 6

ATTACHMENT(S): 1

ACTION: X DATE OF MEETING: June 3, 1998

INFORMATION: ___ PRESENTER(S): Ms. Cunningham

EXECUTIVE SUMMARY

One of the 1997/98 objectives approved for the Investment Branch was to "improve the securities lending program by implementing the internal management of the cash collateral and evaluating the internal management of lending selected portions of the domestic equity and domestic fixed income portfolios." Attachment 1 provides a review of the securities lending concept, along with a review of STRS' securities lending program including an appraisal of the performance of the internal management of the cash collateral and an evaluation of the potential benefits and risks associated with lending a portion of STRS' assets internally.

Internal management of the cash collateral was approved by the Investment Committee in January 1997, as the result of a recommendation by staff and Pension Consulting Alliance (PCA). In August 1997, the initial contribution of $204 million to the internally managed cash collateral portfolio was made. As of May 1998, the value of that portfolio exceeded $2 billion. Over the past nine months, STRS has earned a total of $2.9 million within the cash collateral portfolio.

The evaluation of lending selected portions of the domestic equity and fixed income assets internally is predicated upon the goal of adding incremental value to the fund along with the desire for cost containment within the securities lending program. An examination of the securities lending process excluding the external contractor illustrates that it is a program enhancement that is not substantially different from STRS' current methodology.

In light of the analysis with respect to the potential benefits and risks associated with lending a portion of the assets internally, the following conclusions can be made:

* Given the size of STRS' lendable asset base and the competition and diversification benefits achieved through the use of multiple lenders, it is neither feasible, nor desirable, to consider

lending all of the domestic equity and fixed income assets internally. Therefore staff suggests that the internal lending be concentrated on domestic equity and US Treasury assets.

* Assuming that STRS is able to earn approximately the same average spread as is currently being earned on $1 billion of assets, it is reasonable to expect that this program enhancement should provide an additional $375,000 per year in securities lending income.

* Given the risks of collateral adequacy, borrower default and operational integrity associated with the lending aspect of securities lending, the importance of such practices as delivery versus payment, the adherence to policies and procedures, and the performance of periodic audits and reviews at multiple levels should effectively mitigate potential risks.

* Given the additional responsibilities associated with internally lending a portion of STRS' assets, it is anticipated that one extra staff member is needed in order to implement the extra activities.

RECOMMENDATION

Staff and PCA recommend that the Investment Committee expand the securities lending program to incorporate the internal lending of a portion of STRS' domestic equity and US Treasury assets.

OFF-BALANCE SHEET - SECURITIES LENDING PROGRAM

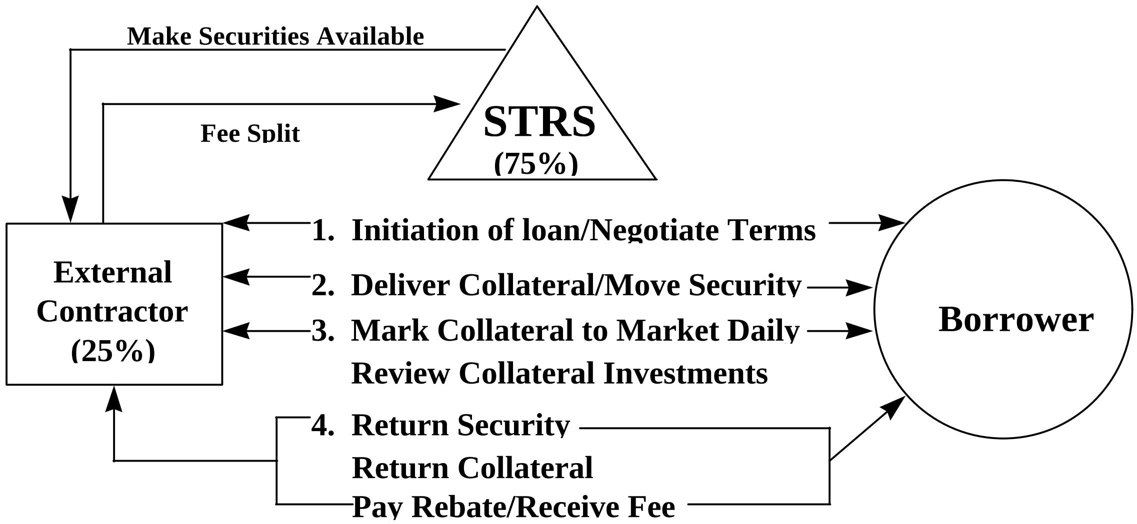
WHAT IS SECURITIES LENDING?

Securities lending is an agreement between a lender (STRS) and a borrower to transfer ownership of a security temporarily in order to earn additional income. The lender retains ownership rights of the security and is entitled to any distributions that occur with respect to that security during the life of the loan, such as coupon and dividend payments. The borrower backs the agreement by delivering collateral to the lender in the form of either cash or other liquid securities in an amount that exceeds the market value of the securities borrowed. At the end of the loan, or on a periodic basis, the lender is compensated.

The Current Securities Lending Process

As the following chart indicates, the securities lending process currently in place at STRS begins as the external contractor, acting as STRS' fiduciary, negotiates the terms of the loan with the borrower. It should be noted that the credit worthiness of each borrower is evaluated prior to executing a lending agreement and the credit lines of each borrower are reviewed on a regular basis. During this negotiation process, it is determined whether the loan will be overnight, open (terminable on demand), or for a specified period of time. In the second step, the securities are transferred to the borrower once the Master Custodian/Sub-Custodian has received the collateral. There is no movement of securities until the appropriate collateral has been received (delivery versus payment). In the third step of the process, collateralization levels, and, if applicable, the investments made with collateral taken in the form of cash are monitored regularly subject to the approved investment guidelines. The purpose of the monitoring is to verify the maintenance of the original agreed upon levels and to mitigate the risks of a significant move in the market that would devalue the securities lent. Finally, at the end of the loan the collateral is returned to the borrower once the security has been received by the Master Custodian/Sub-Custodian. It is also at this point that the lending income is received. Currently STRS and the contractor share the income earned with an approximate 75%/25% split.

EXTERNAL LENDING PROCESS . . .



Source: State Street Bank

Securities Lending Income Components

Cash is currently the dominant form of collateral in securities lending transactions. As a result, the income received is dependent upon two factors: 1) the negotiated lending terms agreed upon at the outset of the loan (the rebate rate) and 2) the return generated from the management of the cash taken as collateral for the loan.

The rebate rate represents payment to the borrower for the use of the cash collateral and is the direct result of a number of factors including; 1) desirability of the issue, 2) length of the lending agreement, 3) level of prevailing interest rates and, 4) type of collateral pledged. There is a definitive securities lending market within which each of these factors is continuously being considered, evaluated and priced.

The return attributable to the management of the cash collateral constitutes approximately half of the income generated by securities lending transactions, while representing primarily all of the risk. This is because the return on the investments made with the cash collateral must exceed the rebate rate paid to the borrower (for the use of that cash) in order to be profitable. In other words, if the cash collateral does not provide a return exceeding the rebate rate or if the investment incurs a loss in principal, part of the payment to the borrower must come from the lenders resources. (It should be noted that STRS mitigates this risk by maintaining a considerable amount of control over the investments allowed within the externally managed cash collateral portfolios and is managing a portion of the cash collateral internally.)

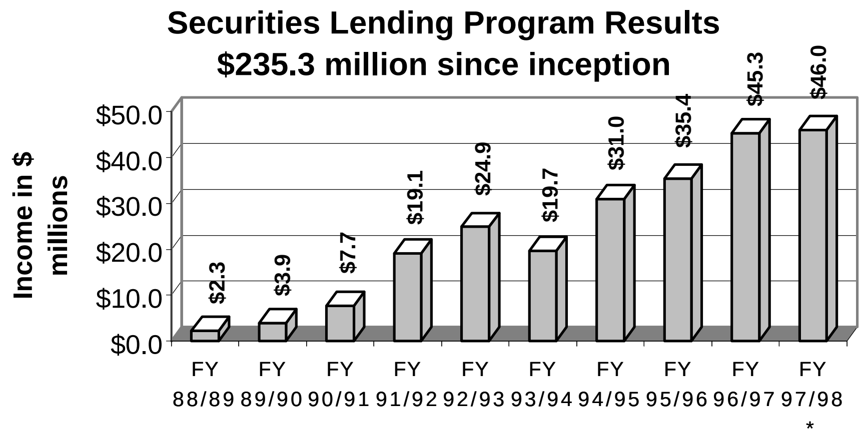
STRS' SECURITIES LENDING PROGRAM BACKGROUND

STRS first began lending its assets, which were entirely domestic at the time, in 1988 through its Master Custodian (State Street). In 1990, another lender was included with the intention of introducing competition and diversification into the program. In 1992, as STRS began investing internationally, the securities lending program was expanded to include these assets as well. By 1994 the program had grown to warrant further diversification and additional lenders were selected for the domestic stock and U.S. Treasury lending. Last year, the international equity lending was expanded to include another lender in the process. It was also in 1997 that the Investment Committee approved the internal management of a portion of the cash collateral proceeds within the securities lending program.

STRS' Securities Lending Program

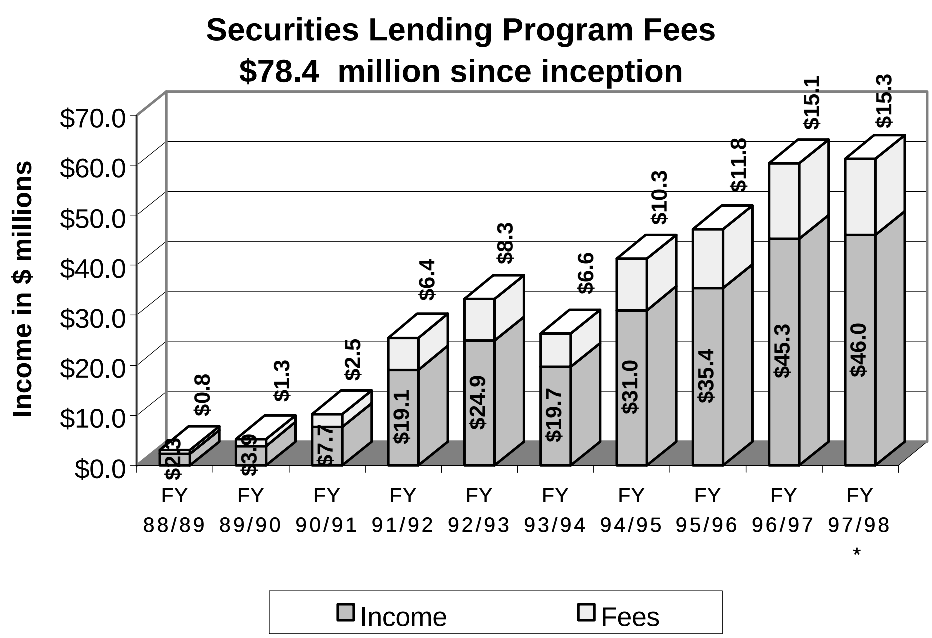
Of the $86 billion STRS has in assets, approximately 75%, or $65 billion, is considered lendable. Currently, there are four contractors that lend domestic and international equity and fixed income assets for STRS: Bear Stearns, Boston Global Advisors (BGA), Metropolitan West Securities, and State Street. Each of these contractors has been selected for their particular lending process and established track record within the securities lending markets. Combined, they provide STRS with a diversified securities lending program.

As the following chart illustrates, the securities lending program has generated over $235 million in off-balance sheet income since it's inception ten years ago.



*** FY 97/98 estimate**

Although STRS' securities lending program has been extremely profitable, there have also been costs in the form of fee splits associated with the program. On average, STRS shares 25% of the income earned on the program with each contractor. As the following chart indicates, last year these fees amounted to $15.1 million and are anticipated to be approximately the same level again this year.



*** FY 97/98 estimate**

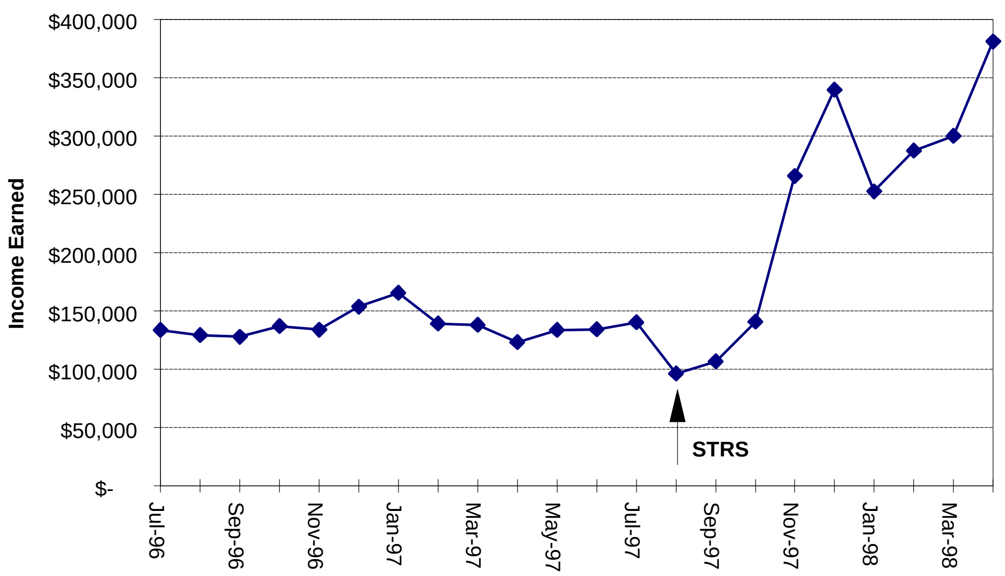
INTERNAL MANAGEMENT OF CASH COLLATERAL UPDATE

In January 1997, the Investment Committee approved the internal management of a portion of the cash collateral proceeds within the securities lending program. This decision was based upon benefits such as potential risk reduction, increased control and the opportunity to earn a higher return. As a result, one of the 1997/98 objectives for the Off-Balance Sheet Program was to implement the internal management of the cash collateral proceeds. The Bear Stearns securities lending program was modified accordingly, with the initial contribution of $204 million to this new portfolio being made in August 1997. In addition, the BGA program, which began lending in February 1998, also involves the management of the cash collateral proceeds by STRS’ Fixed Income staff. As of May 1998, the value of that portfolio exceeded $2 billion.

Internal Management Results

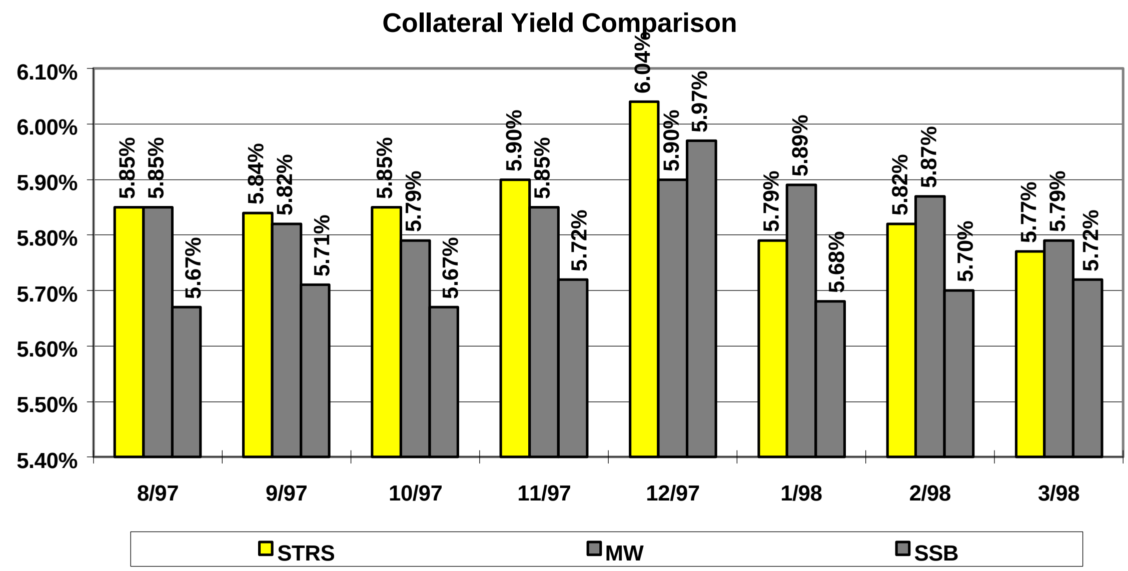
Over the past nine months, STRS has earned a total of $2.9 million within the cash collateral portfolio. In an effort to evaluate the value added by the internal management of the cash collateral, the income stream associated with the Bear Stearns program, has been reviewed. As the chart below illustrates, for the twelve months prior to August 1997, the Bear Stearns securities lending program averaged $137,000 in net income to STRS. Subsequent to the program revision, the net income to STRS has almost doubled, averaging $240,000 over the past nine months. Assuming this trend continues, the annual benefit of the internal management would amount to almost $1.2 million.

STRS Internal Lending Program



As the chart above illustrates, STRS' management of the cash collateral has clearly had a positive impact on the securities lending program.

Another measure to assess the risk and performance of the internally managed cash collateral portfolio is to compare its return to the externally managed portfolios (State Street and Metropolitan West Securities). As the following chart shows, the monthly annualized yields are similar among each of the portfolios.



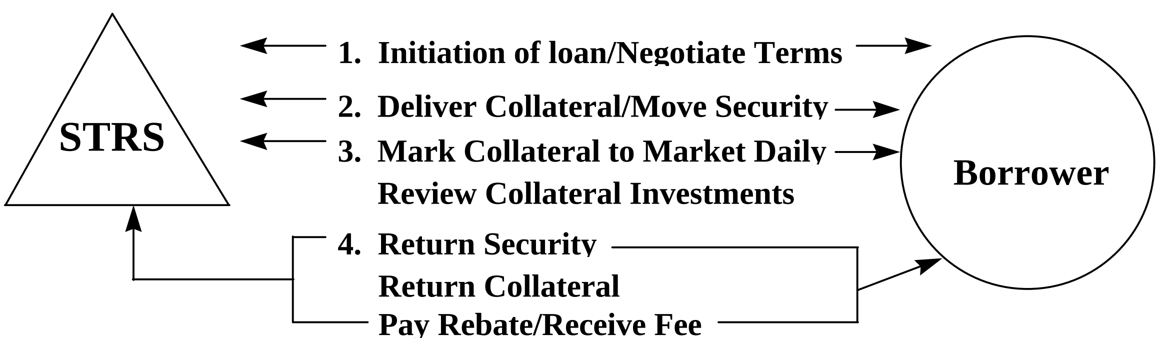
STRS' yield compares favorably with the externally managed funds. It is important to note, however, that different cash collateral managers utilize different styles and, as a result, follow slightly different investment strategies.

EVALUATION OF INTERNAL LENDING

An additional objective for the Off-Balance Sheet Program this year was to evaluate the internal lending of selected portions of the domestic equity and fixed income portfolios. Currently, the external contractors are responsible for the lending side of the securities lending program. As described within the Securities Lending Process section earlier, this lending activity generally involves negotiating the terms of the loan with pre-approved borrowers, orchestrating the movement of the securities with the Master Custodian, maintaining the appropriate level of collateral, and monitoring the income receivable of the lent securities.

The rationale for taking a portion of the lending activity internal is threefold. First, the potential benefits to be achieved are consistent with STRS' goal of adding incremental value to the fund. Second, it represents the next step in the search for cost containment within the securities lending program. Finally, it is not a substantial change from how STRS is currently managing the securities lending program and represents another program enhancement. As the following chart indicates, the elimination of the external contractor does not alter the process significantly.

INTERNAL LENDING PROCESS . . .



Source: State Street Bank

Potential Benefits of Lending Internally

The potential benefits to STRS to be achieved from lending selected assets internally are similar to those associated with managing a portion of the cash collateral internally. From a qualitative point of view, STRS could further increase its level of control over the securities lending program, while maintaining diversification and competition through the retention of multiple lenders.

In addition, some of the benefits would also be quantitative. By selectively managing both the asset management and lending sides, STRS would be able to effectively replace the contractor for a portion of the securities lending program, and, consequently, capture the fee split associated with that activity. For example, as the table below shows, for every $1 billion in assets that STRS lends internally would result in $375,000 in additional income to the fund that would otherwise have been paid out in fees.

Internal Lending Income Fee Split Savings (25% Split)

$ Amount	Fee Split Savings**
$0.5 Billion	$187,500
$1.0 Billion	***$375,000***
$1.5 Billion	$562,500
$2.0 Billion	$750,000
$2.5 Billion	$937,500
$3.0 Billion	$1,125,000

** assuming same average spread as currently being earned on domestic assets

Potential Risks of Lending Internally[1]

Most of the risks associated with the lending aspect of securities lending fall into three categories: 1) Collateral adequacy, 2) Borrower default, and 3) Operational integrity. It is important to understand the nuances of each in order to effectively mitigate them.

Collateral adequacy is the risk that the value of the collateral is insufficient to cover the amount loaned should the borrower default. STRS mitigates this risk within the current process by requiring a) that the external contractor collateralize and mark to market daily all loaned securities and b) that, if applicable, the contractor follow explicitly the collateral reinvestment guidelines provided to them. Loans with insufficient collateral must be adjusted within 24 hours prior to the securities being reloaned to the same borrower. Furthermore, STRS staff currently performs monitoring activities designed to ensure the contractor's compliance with the program policies on an ongoing basis.

The second risk associated with securities lending is that of the borrower defaulting while in possession of STRS' securities. Currently, the external contractor is responsible for evaluating the credit worthiness of each borrower prior to executing a lending agreement, with STRS reviewing the credit lines on a regular basis. Should STRS choose to lend a portion of the assets internally, staff would then be responsible for these credit evaluations. This

[1] The discussion in this section is drawn from RMA/Bargerhuff & Associates, Inc, "Principles of Securities Lending," Module 2: Section 12. Securities Lending Risks.

default risk would be mitigated much the same way it is now. The credit lines would be reviewed regularly and the appropriate collateralization levels would be verified on a daily basis.

The final risk, that of operational integrity, is related to the control and risk management issues for each of the activities associated with the securities lending process; loan negotiation, security movement and collateral maintenance/management. Mitigation of the risks associated with these operational activities is one of the highest priorities. The practice of utilizing delivery versus payment (DVP) settlement substantially reduces the risk to STRS. Furthermore, the adherence to policies and procedures for each segment of the program along with periodic audits and reviews performed at multiple levels serves to address these control issues.

Internal Lending Summary/Conclusions

The evaluation of lending selected portions of the domestic equity and fixed income assets internally has been predicated upon the goal of adding incremental value to the fund along with the desire for cost containment within the securities lending program. An examination of the securities lending process excluding the external contractor illustrates that it is a program enhancement that is not substantially different from STRS' current methodology.

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